

## FACT SHEET

PERMITTEE/FACILITY NAME: City of Detroit Water and Sewerage Department / Detroit Wastewater Treatment Plant

COUNTY: Wayne

RECEIVING WATERS:

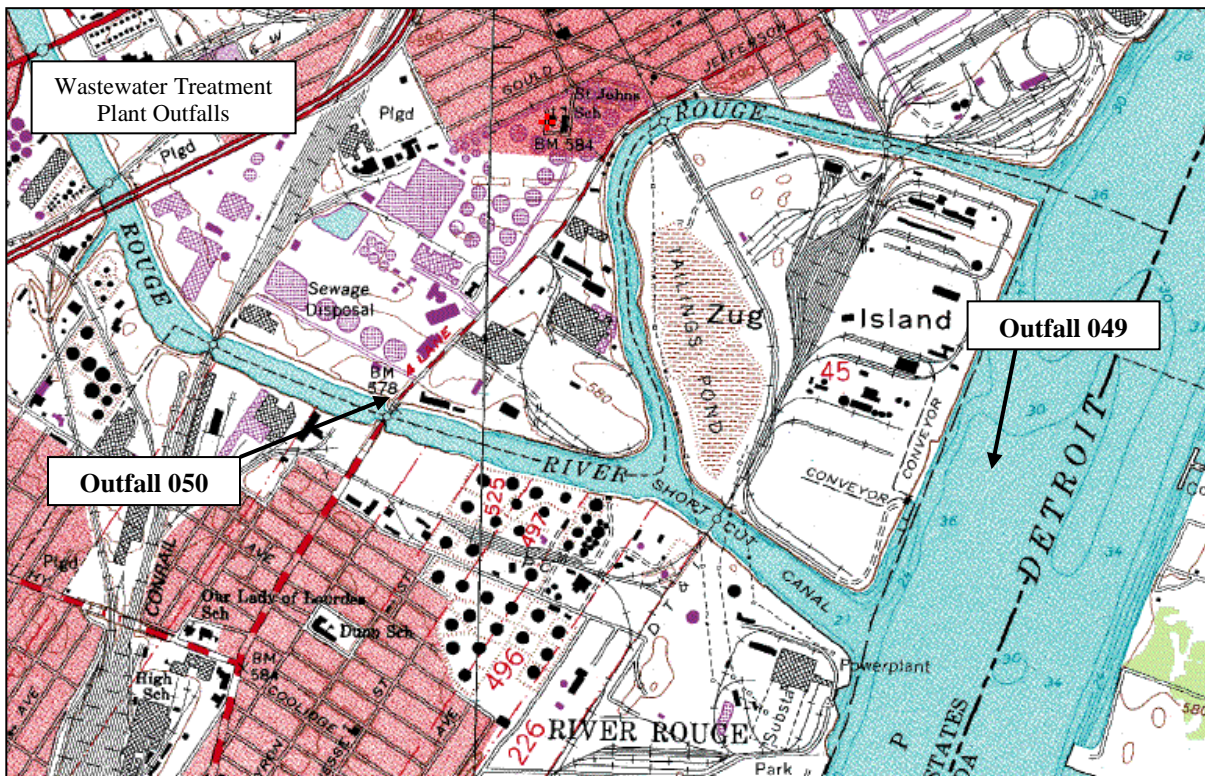
The Detroit River is protected for agricultural uses, navigation, industrial water supply, public water supply, cold-water fish, other indigenous aquatic life and wildlife, partial body contact recreation, and total body contact recreation (May through October).

The Rouge River (including the Old Channel of the Rouge River is protected for agricultural uses, navigation, industrial water supply, public water supply at the point of water intake, warm-water fish, other indigenous aquatic life and wildlife, partial body contact recreation, and total body contact recreation (May through October).

For the outfalls discharging to the Detroit River, the receiving stream flows used to develop effluent limitations are a 95 percent exceedance flow of 65,000 cubic feet per second (cfs), a harmonic mean flow of 104,000 cfs, and a 90-day, 10-year low flow of 92,500 cfs.

For the outfalls discharging to the Rouge River, the receiving stream flows used to develop effluent limitations are a 95 percent exceedance flow of 13 cfs, a harmonic mean flow of 80 cfs, and a 90-day, 10-year low flow of 27 cfs.

MAPS OF DISCHARGE LOCATIONS:



### DESCRIPTION OF MODIFICATION REQUEST:

On November 14, 2014, a modification request was submitted to the Department by the City of Detroit Water and Sewerage Department (DWSD) for NPDES Permit MI0022802. NPDES permit MI0022802 was issued on March 1, 2013. The current permit contains an implementation schedule for the design, construction and operation of the alternate Rouge River wet weather outfall 084 (RRO2) as an alternative to the previously proposed Upper Rouge Tunnel (URT) and Detroit River Outfall (DRO-2) to provide for disinfection of the discharge of intermittent primary treated wet weather flows. DWSD investigated alternate means of achieving disinfection for all flows treated by the facility. Upon completion of two concurrent studies addressing bench-scale disinfection testing and hydraulic analyses, DWSD submitted to the Department the document titled "Rouge River Disinfection Alternative at the Detroit WWTP" dated August 26, 2014. This alternative will result in secondary treated flow and excess primary treated flow during wet weather events being discharged from the Detroit River Outfall 049 (DRO) up to the hydraulic capacity of the DRO. Once the capacity of the DRO is reached, secondary treated flow will be discharged from the Rouge River Outfall 050 (RRO), and the excess secondary and primary treated flows will be discharged from the DRO (see additional details below).

Three flow diagrams follow. Figure 1 represents current facility operations. Figure 2 reflects the facility with the previously proposed Rouge River Outfall (RRO2) project. Figure 3 reflects the facility once the proposed Rouge River Outfall (RRO) Disinfection Project is completed. The draft permit calls for this project to be completed and in service by 2019.

**Figure 1. Current Facility Operations**

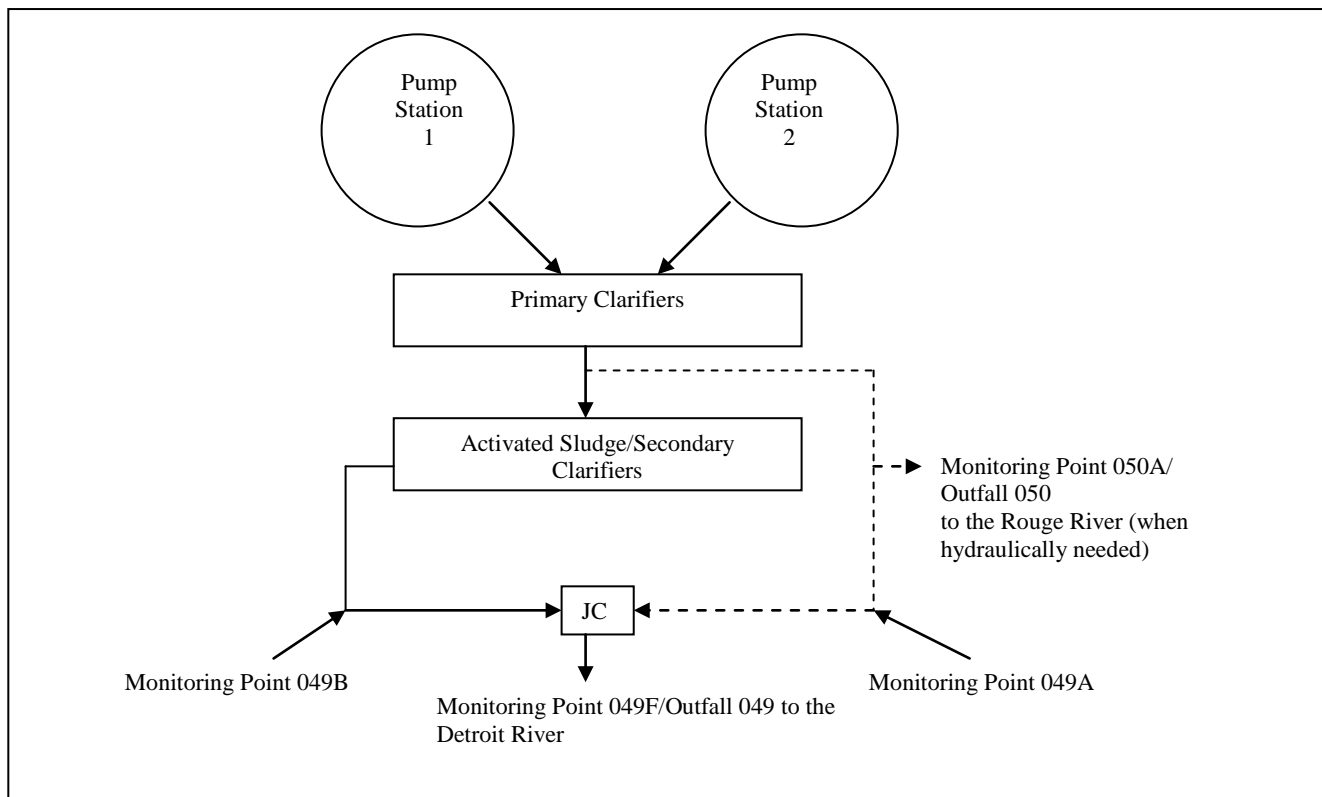


Figure 2. Previously Proposed RRO2 Project

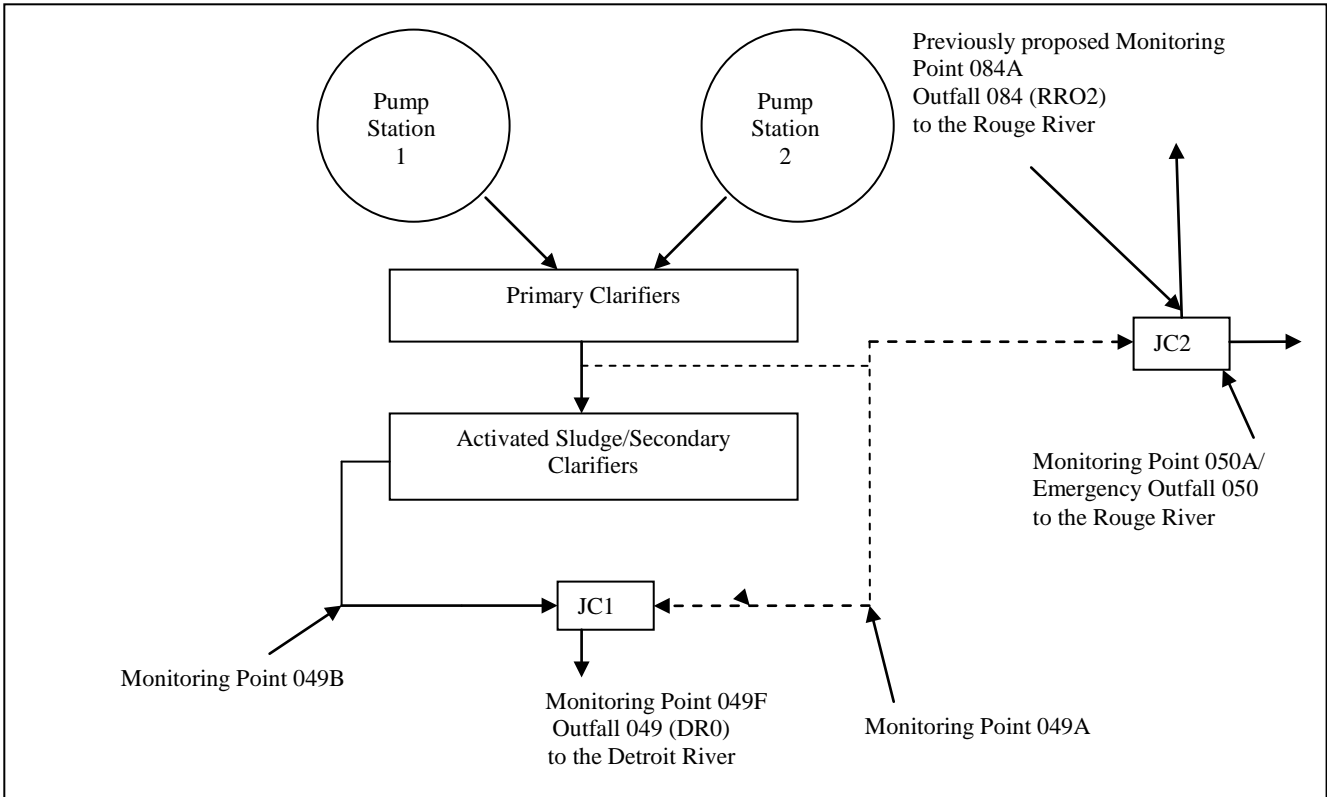
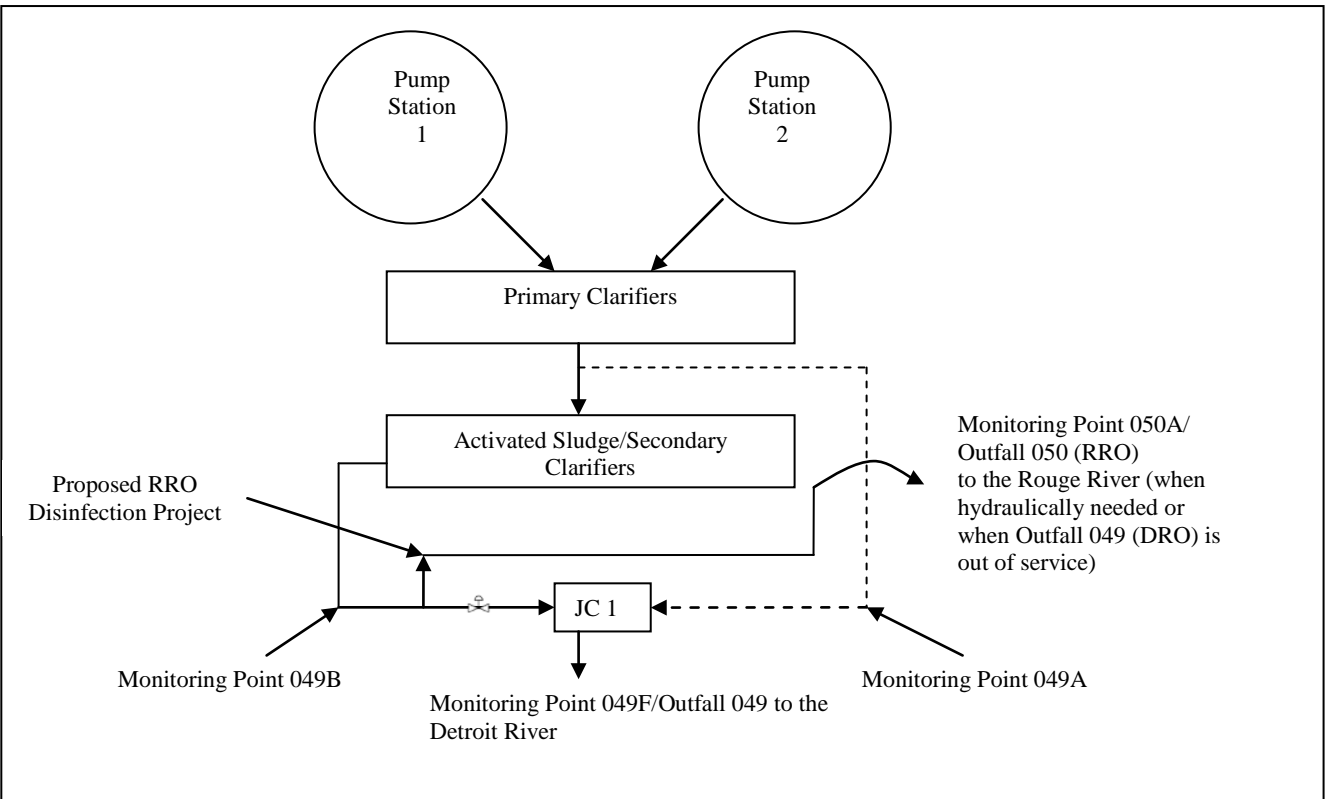


Figure 3. Proposed RRO Disinfection Project



The Detroit Wastewater Treatment Plant's (WWTP) sustained peak primary treatment capacity for wet-weather flows is 1,700 MGD (raw), and the sustained peak secondary treatment capacity for sanitary and wet-weather flows is currently 930 MGD (including recycle). Flows up to 930 MGD (minus recycle) that are conveyed to the plant receive primary and secondary treatment (and disinfection/dechlorination) and are discharged via Outfall 049 (DRO) to the Detroit River. Flows greater than 930 MGD and up to 1,700 MGD receive primary treatment. Flows greater than 930 MGD that can be hydraulically routed to Outfall 049 via Monitoring Point 049A currently receive disinfection and dechlorination. Flows greater than 930 MGD that exceed the capacity of Outfall 049 (DRO) are discharged through Outfall 050 to the Rouge River. Currently flows discharged through Outfall 050 are not disinfected. After completion of the RRO Disinfection Project, during wet weather events when flows exceed the hydraulic capacity of Outfall 049 (DRO), up to 830 MGD of secondary treated flow from Monitoring Point 049B during wet weather events will be disinfected and routed to Outfall 050 (RRO) and the Rouge River. The remaining secondary treated flow and primary treated wet weather flow up to the hydraulic capacity of the DRO will be disinfected and routed to Outfall 049 (DRO) and the Detroit River. Upon initiation of operation of the RRO Disinfection Project, all flow through the WWTP will receive disinfection and dechlorination.

The fact sheet for the 2013 permit reissuance included information about the legal framework for the routing and treatment of wet weather flows at the Detroit WWTP. Title 40 of the Code of Federal Regulations (40 CFR), Subpart 122.41(m)(1), defines "bypass" as "the intentional diversion of waste streams from any portion of a treatment facility." Under the United States Environmental Protection Agency's (USEPA) regulations, such diversions are generally prohibited except under specified limited circumstances. One such circumstance is where the permittee demonstrates that: (1) the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; (2) there was no feasible alternative to the bypass; and (3) the permittee has submitted the required notices. The bypass regulation specifies that a permitting authority may approve an "anticipated bypass" where the record demonstrates that these three conditions will be met, but only after consideration of adverse effects. How 40 CFR 122.41(m) is applied to CSO-related bypasses is specifically discussed in the USEPA's April 1994 CSO Control Policy (c.7 "Maximizing Treatment at the Existing POTW Treatment Plant"). This policy was incorporated into Section 402 of the Clean Water Act (dated November 27, 2002) by reference. The 2013 fact sheet documented that the criteria specified in the USEPA's CSO Policy for approval of CSO-related bypasses in the permit have been met by the permittee.

The Department of Environmental Quality (Department) and the DWSD have evaluated the feasibility of providing additional secondary treatment at the WWTP. Resulting from full-plant evaluations of the WWTP during the Long-Term CSO Planning effort, the capacity of secondary treatment was increased to 930 MGD (including recycle). This amount of secondary treatment also has been shown to meet secondary limits for flows greater than the peak dry-weather flow, plus an appropriate quantity of wet-weather flows. There is currently no additional space at the plant where additional secondary capacity could be constructed. The DEQ determined there are no feasible alternatives for providing secondary treatment to flows greater than 930 MGD. If flows above 930 MGD were routed through the secondary units, this would result in wash out of the WWTPs secondary treatment system (the criteria described in the USEPA CSO Control Policy).

The DEQ analyzed the effects of providing primary treatment for the increment of flows greater than 930 MGD and up to 1700 MGD and determined that these discharges in wet weather, with the treatment being provided, conform with State Water Quality Standards, with the exception that some wet weather flows will not be disinfected until after the completion of the disinfection project required under the permit. The DEQ has found the discharges will not result in degradation of the Detroit

River, the Rouge River, or Lake Erie. Therefore, in accordance with the USEPA's CSO Control Policy (as incorporated into the Clean Water Act) and 40 CFR § 122.41(m)(1), the Department is approving the discharge of treated CSO flows through the Rouge River Outfall and the Detroit River Outfall until the new disinfection project is completed, and through the Detroit River Outfall after the new disinfection project is completed.

#### BASIS FOR PROPOSED EFFLUENT LIMITATIONS:

Based on this facility's application for modification of their current NPDES discharge permit, the Department proposes to issue the applicant a modified permit to discharge, subject to effluent limitations and certain other conditions within the permit. The modified permit removes the previously proposed Wet Weather Outfall 084 (RRO-2) and includes a detailed schedule of compliance for design, construction and operational placement of the RRO Disinfection Project. The final completion date of 2019 is unchanged. Mercury effluent limitations and sampling locations have been moved from monitoring points 049F and 050A to monitoring points 049B and 049A respectively, to better characterize effluent quality. The effluent limitations for mercury have not changed and are based on water quality. A requirement for a schedule to conduct a Biological Survey in the Rouge River has been removed, and a requirement for submittal of existing studies and/or surveys previously conducted to evaluate the fate, transport, and effect of the discharge from Outfall 049 (DRO) on the biological community has been added. Final Effluent limitations for Total Polychlorinated Biphenyls have been added to Monitoring Point 050A to reflect the proposed RRO Disinfection Project, and are based on water quality. The Schedule of Implementation for the previously proposed Outfall 084 (RRO2) has been modified to reflect the proposed RRO Disinfection Project.

#### REGISTER OF INTERESTED PERSONS

Any person interested in a particular application, or group of applications, may leave his/her name, address, and telephone number as part of the file for an application. The list of names will be maintained as a means for persons with an interest in an application to contact others with similar interests.

#### PUBLIC COMMENT

Comments or objections to the draft permit received between April 17, 2015, and May 18, 2015, will be considered in the final decision to issue the permit.

If submitted comments indicate significant public interest in the application or if useful information may be produced, the Department, at its discretion, may hold a public hearing on the application. Any person may request the Department to hold a public hearing on the application. The request should include specific reasons for the request, indicating which portions of the application or draft permit constitute the need for a hearing.

Public notice of a hearing will be provided at least thirty (30) days in advance. The hearing will normally be held in the vicinity of the discharge. The Department will consider comments made at the hearing when making its final determinations on the permit. Further information regarding the draft permit, and procedures for commenting or requesting a public hearing may be obtained by contacting Matt Staron, Permits Section, Water Resources Division, Department of Environmental Quality, P.O. Box 30458, Lansing, Michigan 48909, telephone: 517-284-5589, e-mail: Staronm@michigan.gov.